

Appl. No. : 10/694,198
Filed : October 27, 2003

AMENDMENTS TO THE CLAIMS

Please cancel Claims 1, 2-4, 7, and 13-15 without prejudice.

Please amend Claims 5, 6, 8, and 9 as follows.

Please add new Claims 16-22 as follows:

1. (Cancelled).

2. (Cancelled).

3. (Cancelled).

4. (Cancelled).

5. (Currently Amended) The method as defined in Claim 17~~4~~, wherein the time between the act of measuring selectively increases as the resistance level increases to enable the muscle group to rest between successive acts of moving the engagement assembly.

6. (Currently Amended) The method as defined in Claim 17~~3~~, wherein the velocity is determined by periodically measuring a position of the piston, and the velocity is calculated based on the distance moved during a known time interval.

7. (Cancelled).

8. (Currently Amended) The method as defined in Claim 17~~4~~, wherein sufficient data are collected when the resistance level is incremented to a predetermined level.

9. (Currently Amended) The method as defined in Claim 17~~4~~, wherein sufficient data are collected when a predetermined number of exercise strokes are completed.

10. (Cancelled).

11. (Cancelled).

12. (Cancelled).

13. (Cancelled).

14. (Cancelled).

15. (Cancelled).

16. (New) A method of evaluating the power of a muscle group of a person, comprising:

initializing a resistance element to a first resistance level;

moving an engagement assembly coupled to the resistance element at a highest achievable velocity through an exercise stroke;

measuring a representative velocity at which the engagement assembly is moved through the exercise stroke and collecting data responsive to the representative velocity;
increasing the resistance level of the resistance element;
repeating the acts of moving, measuring and increasing until sufficient data are collected;
calculating power for each exercise stroke based on the resistance level for each exercise stroke and the representative velocity for each exercise stroke;
generating an output that represents at least the measured velocity and calculated power for a plurality of exercise strokes;
determining a maximum power for the muscle group; and
determining a velocity and a resistance level where the maximum power is produced.

17. (New) A method of evaluating the power of a muscle group of a person, comprising:

initializing a resistance element to a first resistance level;
moving an engagement assembly coupled to the resistance element at a highest achievable velocity through an exercise stroke, wherein the resistance element is a pneumatic cylinder in which the engagement assembly causes a piston within the pneumatic cylinder to move against air pressure in the pneumatic cylinder;
measuring a representative velocity at which the engagement assembly is moved through the exercise stroke and collecting data responsive to the representative velocity;
increasing the resistance level of the resistance element;
repeating the acts of moving, measuring and increasing until sufficient data are collected;
calculating power for each exercise stroke based on the resistance level for each exercise stroke and the representative velocity for each exercise stroke;
generating an output that represents at least the measured velocity and calculated power for a plurality of exercise strokes; and
determining a maximum power for the muscle group.

18. (New) A method of evaluating the power of a muscle group of a person, comprising:

initializing a resistance element to a first resistance level;
moving an engagement assembly coupled to the resistance element at a highest achievable velocity through an exercise stroke;
measuring a representative velocity at which the engagement assembly is moved through the exercise stroke and collecting data responsive to the representative velocity;
increasing the resistance level of the resistance element;
repeating the acts of moving, measuring and increasing until sufficient data are collected;
calculating power for each exercise stroke based on the resistance level for each exercise stroke and the representative velocity for each exercise stroke;
generating an output that represents at least the measured velocity and calculated power for a plurality of exercise strokes; and
determining a maximum power for the muscle group,
wherein the engagement assembly is configured as a chest press, and wherein a first handgrip is provided for a left hand of a subject and a second handgrip is provided for a right hand of a subject, each handgrip being coupled to a respective resistance element, the act of measuring being performed independently for each handgrip to provide an independent power measurement for each arm of the subject.

19. (New) A method of evaluating the power of a muscle group of a person, comprising:

initializing a resistance element to a first resistance level;
moving an engagement assembly coupled to the resistance element at a highest achievable velocity through an exercise stroke;
measuring a representative velocity at which the engagement assembly is moved through the exercise stroke and collecting data responsive to the representative velocity;
increasing the resistance level of the resistance element;
repeating the acts of moving, measuring and increasing until sufficient data are collected, wherein sufficient data are collected when the resistance level is sufficient to preclude moving the engagement assembly through a complete exercise stroke;
calculating power for each exercise stroke based on the resistance level for each exercise stroke and the representative velocity for each exercise stroke;

- generating an output that represents at least the measured velocity and calculated power for a plurality of exercise strokes; and
- determining a maximum power for the muscle group.
20. (New) A method of evaluating the power of a muscle group of a person, comprising:
- initializing a resistance element to a first resistance level;
 - moving an engagement assembly coupled to the resistance element at a highest achievable velocity through an exercise stroke;
 - measuring a representative velocity at which the engagement assembly is moved through the exercise stroke and collecting data responsive to the representative velocity;
 - increasing the resistance level of the resistance element;
 - repeating the acts of moving, measuring and increasing until sufficient data are collected;
 - calculating power for each exercise stroke based on the resistance level for each exercise stroke and the representative velocity for each exercise stroke;
 - generating an output that represents at least the measured velocity and calculated power for a plurality of exercise strokes; and
 - determining a maximum power for the muscle group,
- wherein the step of repeating the acts of moving, measuring and increasing comprises increasing the resistance level to a maximum resistance, and wherein the step of calculating power involves calculating a power at the maximum resistance.
21. (New) A method of evaluating the power of a muscle group of a person, comprising:
- initializing a resistance element to a first resistance level;
 - moving an engagement assembly coupled to the resistance element at a highest achievable velocity through an exercise stroke;
 - measuring a representative velocity at which the engagement assembly is moved through the exercise stroke and collecting data responsive to the representative velocity;
 - increasing the resistance level of the resistance element;
 - repeating the acts of moving, measuring and increasing until sufficient data are collected;

calculating power for each exercise stroke based on the resistance level for each exercise stroke and the representative velocity for each exercise stroke;

generating an output that represents at least the measured velocity and calculated power for a plurality of exercise strokes;

determining a maximum power for the muscle group; and

determining a maximum velocity at which the engagement assembly is moved during a plurality of exercise strokes.

22. (New) A method of evaluating the power of a muscle group of a person, comprising:

initializing a resistance element to a first resistance level;

moving an engagement assembly coupled to the resistance element at a highest achievable velocity through an exercise stroke, wherein the resistance element provides a generally consistent resistance against movement of the engagement assembly throughout the exercise stroke;

measuring a representative velocity at which the engagement assembly is moved through the exercise stroke and collecting data responsive to the representative velocity;

increasing the resistance level of the resistance element;

repeating the acts of moving, measuring and increasing until sufficient data are collected;

calculating power for each exercise stroke based on the resistance level for each exercise stroke and the representative velocity for each exercise stroke;

generating an output that represents at least the measured velocity and calculated power for a plurality of exercise strokes; and

determining a maximum power for the muscle group.